

AN ALMANACK

For the Year of our LORD,

1653.

Shewing the places of the
Sun and Moon, their Con-
junctions, Aspects and Eclipses,
their Rising, Setting, and
Southing; with the true
time of the Tides.

Calculated for the Meridian and
Horizon of the City of LONDON,
having North Latitude 51 deg. 32 min.
and 24 deg. 20 min. of Longitude.

Whereunto is added,

A brief Discourse of the Principles of Astro-
nomy; shewing the order, motions, and
magnitude of the Earth and Heavens,
with all the heavenly Bodies there-
in contained; according to the
most sensible and rational
Demonstrations.

Also, New Tables of *Interest*; and for
Purchases of *Annuities* or *Leases*.

By HENRY PHILIPPES.

LONDON, Printed by T. Maxey, for the
Company of Stationers, 1653

January hath xxxi dayes.

Full moon 3 day, 5 hour 31 minutes afternoon
Last quarter 11 day, 7 hour 20 minutes afternoon

Sun rise set Ocean, South side L. J. 1671									
1	7	New years d	21	44	10	A	12	38	6m34
2	8	Lords day	21	34	10	58	1	A	527.37
3	7	58	4	2	21	24	11	52	2 52 Drift
4	3	24	58	W	21	13	12	44	3 40 A 47
5	4	56	4	4	21	02	1m	29	4 15 6 7
6	5	Twelf day	20	50	2	12	4	46	7 20
7	6	53	4	7	20	38	2	53	5 11 8 33
8	7	52	4	8	20	25	3	32	5 35 9 45
9	8	Lords day	20	13	4	8	5	57	10 49
10	2	7 49	4	11	19	59	4	46	6m25 12 0
11	3	02 06	19	46	5	25	6	58	Morn
12	4	7 46	4	14	19	32	6	6	7 36 1 12
13	5	Hillary	16	19	17	6	51	8	26 2 22
14	6	7 43	4	17	19	03	7	38	9 24 3 43
15	7	7 42	4	18	18	48	8	31	10 34 4 58
16	8	Lords day	18	32	9	27	11	43	6 1
17	2	7 39	4	21	18	17	10	25	1 A 5 6 57
18	3	9 14	18	01	11	21	2	17	7 34
19	4	7 35	4	25	17	44	12	16	3 15 D lets
20	5	Offab. Hillary	17	28	1	A	9	4	1 5 A 16
21	6	Exception	17	11	1	58	4	35	7 43
22	7	Retur. Brevi	16	54	2	46	5	6	2 12
23	8	Lords day	16	36	3	35	5	36	10 39
24	2	Term begin	16	18	4	21	6	M	7 12 6
25	3	Conver. Paul	16	05	9	6	44	Mo.	6
26	4	7 23	4	37	15	41	5	37	33 1 33
27	5	Quind. Hilla	15	23	6	57	8	32	2 59
28	6	Except.	15	47	53	9	48	4	18
29	7	Retur. Brevi.	14	45	8	49	11	05	23
30	8	Lords day	14	25	9	43	12	1	6 13
31	2	Appearance	14	05	10	34	1	A	21 6 44

21 22 23 24 25 26 27 28 29 30
 31 32 33 34 35 36 37 38 39 40
 41 42 43 44 45 46 47 48 49 50
 51 52 53 54 55 56 57 58 59 60
 61 62 63 64 65 66 67 68 69 70
 71 72 73 74 75 76 77 78 79 80
 81 82 83 84 85 86 87 88 89 90
 91 92 93 94 95 96 97 98 99 100

122 I had a Bushell of Wheat of good
 to many times to be at again. best good

123 I had a Bushell of Wheat of good

Rich: I have for owed me 4: 05:

he paid for me to me 3: 05: 2

rep then due to me 00: 19: 7

I move for a Cow to be due 05: 00:

I rose a q^{ty} of 200 lb of wine
 weighed it 56: 1/2

January hath 31 daues.

New moon 19 day, 6 hour 53 minutes morning
First quarter 25 day 11 hour 17 minutes afternoon

place	The Description of the severall Columns of the Almanack.
1 Ge. 24	The first Col. shewes the days of the month.
2 Can. 8	The second the days of the week.
3 21	The third shewes many things; 1 the Lords
4 Leo 4	days and all days of note for distindio of the
5 17	times of the year, and for keeping any fairs.
6 29	2 It shewes the beginning and ending of the
7 Vir. 11	Terms, with their Returns: each Return
8 23	hath four days: 1 The day of Return or
9 Libra 5	Enjoin: 2 Of Exceptions; 3 Of Return
10 17	in Brevium; 4 Of Appearance. But if
11 29	any of these fall upon Sunday, then the day
12 Scor. 11	after serves for both. In the spare places of
13 23	this Column you have the Sun. rise and set;
14 Sag. 5	and now and then the place of the Sun; b)
15 18	which you may know the like any other day.
16 Cap. 1	The fourth Column shewes the declination
17 15	of the Sun; which is very useful for Seamen
18 29	to finde the latitude of places by; and for
19 Aqu. 13	many other Astronomical conclusions.
20 28	The fifth Column shewes the terms of the
21 Pis. 13	Moons coming to the 20. th, according to her
22 27	place at noon; being needfull in the know
23 Aries 12	edge of the Tides, and the time of the night.
24 26	The sixth shewes the true time of high wa
25 Tau. 11	ter at London; by which and the tide
26 24	table following, you may know the true time
27 Gem. 8	of the tides in many other places.
28 21	The seventh Column shewes the rising or
29 Can. 4	setting of the moon. Note here, from the new
30 17	moon to the full it shewes the moons setting;
31 Leo 0	the moon then rising in the day, and so no
	notice is taken of it; and the forapart of the
	night is light until the Moon sets, and the
	rest is all dark. But from the full moon to
	the new it shewes the moons rising; for then
	the moon sets in the day and riseth in the
	night, so it is dark till the Moon riseth, and
	afterward all light.

February hath xxviii. dayes

Full on 1 day, 11 our 14 minutes midnight
 Last on after 10 day, 2 hour 12 minutes at the noon

Suns rise J. 1 ☉ Decan. 2. 10 in Elev. 2. 10									
1	3	7	12	4	8	13	46	11	23
2	4								
3	5	Purific. Mary	13	26	12	7	3	7	D rise
4	6	Craft. Purif.	13	51	12	48	3	43	6A 12
5	7	Exception	12	44	1m	26	4	14	7 23
6	8	Return. Brev	12	24	2		5	4	41 8 35
7	9	Lords day	12	3	2	42	5	5	9 45
8	10	Appearance	11	42	3	21	5	28	10 55
9	11	☉ 0 29 ☿	11	21	4		3	5	54 12 9
10	12	Octab. Purif	10	59	4	47	6m	26	Mo. 9
11	1	Exception	10	38	5	23	7	5	1 26
12	2	Return. Brev	10	16	6	22	7	5	4 2 38
13	3	Term ends	9	54	7	16	8	5	5 3 45
14	4	Lords day	9	32	8	13	10	9	4 46
15	5	Valentine	9	9	9	10	11	29	5 29
16	6	6 45	5	14	8	47	10	5	12 43 6 3
17	7	☉ 08 31 ☿	8	25	11	0	1A	54	6 27
18	8	6 42	5	18	8	3	11	51	2 51 D sets
19	9	6 40	5	20	7	39	12	40	3 36 6 47
20	10	6 38	5	22	7	16	1A	26	4 14 8 12
21	11	Lords day	6	53	2	18	4	48	9 49
22	12	6 34	5	26	6	30	3	11	5 22 11 12
23	1	Shrove tuesd	6	7	4	3	5	55	12 49
24	2	6 30	5	30	5	44	5	0	6m 36 4. 49
25	3	Matthias	5	20	5	56	7	20	2 12
26	4	☉ 17 31 ☿	4	57	6	53	8	28	3 24
27	5	6 24	5	36	4	33	7	47	9 35 4 18
28	6	Lords day	4	10	8	40	10	47	4 55
29	7	First in Lent	3	47	9	27	11	53	5 18

18 : 27 2/5 7/10 7/10 : 1/15 - 1/10

19 : 1/10 2/5 7/10 7/10 : 1/15 - 1/10

20 : 7/10 2/5 7/10 7/10 : 1/15 - 1/10
+ 7/10 2/5 7/10 7/10 : 1/15 - 1/10
1/10 2/5 7/10 7/10 : 1/15 - 1/10
2/10 - 1/10 : 05.19.
7/10 2/5 7/10 7/10 : 1/15 - 1/10
7/10 2/5 7/10 7/10 : 1/15 - 1/10
1/10 2/5 7/10 7/10 : 1/15 - 1/10
2/10 - 1/10 : 05.19.
3/10 2/5 7/10 7/10 : 1/15 - 1/10
- 7/10 2/5 7/10 7/10 : 1/15 - 1/10
7/10 2/5 7/10 7/10 : 1/15 - 1/10
1/10 2/5 7/10 7/10 : 1/15 - 1/10

21 : 7/10 2/5 7/10 7/10 : 1/15 - 1/10
7/10 2/5 7/10 7/10 : 1/15 - 1/10
7/10 2/5 7/10 7/10 : 1/15 - 1/10
7/10 2/5 7/10 7/10 : 1/15 - 1/10
7/10 2/5 7/10 7/10 : 1/15 - 1/10
7/10 2/5 7/10 7/10 : 1/15 - 1/10
7/10 2/5 7/10 7/10 : 1/15 - 1/10
7/10 2/5 7/10 7/10 : 1/15 - 1/10

22 : 7/10 2/5 7/10 7/10 : 1/15 - 1/10
24 : 7/10 2/5 7/10 7/10 : 1/15 - 1/10
25 : 7/10 2/5 7/10 7/10 : 1/15 - 1/10

closet - ceiling
wall 1/10 x 1/10

February hath xxviii dayes.

New moon 1 day, 5 hour 26 minutes after noon

Full quarter 24 day, 8 hour 48 minutes morning

D place.

1 Leo 13

2 25

3 Virg. 8

4 20

5 Libra 1

6 13

7 25

8 Scor. 7

9 19

10 Sag. 1

11 13

12 26

13 Cap. 9

14 23

15 Aqu. 7

16 22

17 Pis. 6

18 21

19 Ari. 6

20 21

21 Tau. 6

22 20

23 Ge. 4

24 18

25 Can. 1

26 14

27 27

28 Leo 10

Because the time set down in all the Columns of the Almanack is reckoned by hours and minutes; whereas usually common people reckon by hours, half, and quarters: Therefore note, that

7 or 8 minutes are half a quarter

15 min. are one quarter.

22 or 23 m. are quarter & half q.

30 minutes are half an hour.

37 or 38 are half hour & half q

45 minutes are three quarters.

52 or 53 m. are 3 quarts. & half

60 minutes are an hour.

The 17 day of this month of February there will be a small Eclipse of the Sun: but it will not be seen of us, nor scarce in any part of the known world; therefore I shall say no more of it.

March hath xxxi dayes.

Full Moon the 4 day, 4 hour 0 min. morning
 Last quarter the 13 day, 6 hour 50 min. morning

		sun rise	set	decl.	month	Tide	Lod	sets
1	3	David	5 42	3	23	10 12	12 52	5 38
2	4	6 16	5 44	2	59	10 54	1 A 47	5 52
3	5	6 14	5 46	2	35	11 33	2 30	6 2
4	6	Moon eclips.	2	12	12 12	3 12	Drise	
5	7	6 10	5 50	1	48	12 52	3 47	7 37
6	8	Lords day	1	25	1m 30	4 16	3 51	
7	2	fish in Lent	1	1	2 19	4 44	10 2	
8	3	6 4	5 56	0	37	2 53	5 11	11 17
9	4	6 2	5 58	0	14	3 38	5 38	12 31
10	5	Sun in Aries	0	10	4 27	6m 10	M. 31	
11	6	☉ 1 23	γ	0	34	5 18	6 52	1 41
12	7	5 56	6 4	0	58	6 13	7 44	2 42
13	B	Lords day	1	21	7 9	8 47	3 34	
14	2	bird in Lent	1	45	8 29	5 44	7	
15	3	5 50	6 10	2	8	8 57	11 7	4 33
16	4	5 48	6 12	2	32	9 47	12 2	4 53
17	5	☉ 7 18	γ	2	55	10 37	1 A 25	5 8
18	6	5 44	6 18	3	18	11 27	2 24	5 22
19	7	5 42	6 18	3	42	12 28	3 25	Drise
20	B	Lords day	4	5	1 A 9	4 18	55	
21	2	Midlent	4	29	2 44	40 10	33	
22	3	☉ 12 14	γ	4	52	3 05	15 12	1
23	4	☉ 13 13	γ	5	15	4 05	52 Mo. 1	
24	5	5 32	6 28	5	38	4 58	6m 34	1 22
25	6	Ann. Mary	6	0	5 55	7 25	2 23	
26	7	5 28	6 32	6	23	6 48	8 23	3 5
27	B	Lords day	6	46	7 39	9 25	3 34	
28	2	fish in Lent	7	8	8 23	10 23	3 55	
29	3	5 22	6 38	7	31	9 6	11 22	4 10
30	4	☉ 20 4	γ	7	53	9 45	12 17	4 20
31	5	5 18	6 42	8	15	10 23	1 A 6	4 29

1	1: 37 1/2 149 - 10 5/8 1/2	
2	1: 5 1/2 1/2 1/2 - 14 1/2 1/2 1/2 1/2 1/2 1/2	
3	1: 5 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2	
4	1: 5 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2	
5	1: 5 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2	
6	1: 5 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2	
7	1: 5 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2	00.01.
8	1: 5 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2	00.00.4
9	1: 5 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2	00.00.5
10	1: 5 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2	00.00.10
11	1: 5 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2	00.05.
12	1: 5 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2	
13	1: 5 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2	
14	1: 5 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2	
15	1: 5 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2	
16	1: 5 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2	
17	1: 5 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2	00.01.2
18	1: 5 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2	
19	1: 5 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2	00.01.
20	1: 5 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2	00.01.
21	1: 5 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2	02.00.
22	Thomas Swand	00.07.
23	1: 5 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2	00.05.2
24	1: 5 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2	00.01.1
25	1: 5 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2	00.05.
26	1: 5 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2	
27	1: 5 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2	00.00.
28	1: 5 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2	
29	1: 5 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2	
30	1: 5 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2	

partition

Chamber

walls

2.0
3.2
5.2
7.3

March hath xxxi dayes

New moon 19 day, 2 hour 45 minutes morning
First quarter 26 day, 8 hour 3 minutes afternoon.

By place.

1	Leo	22			
2	Virg.	4	On Friday morning the 4 of		
3		16	March, there will be a great Eclipse		
4		28	of the Moon, which will be seen in		
5	Libra	9	England if the Air be cleer. The		
6		22	time of its appearance at London		
7	Scor.	4	is thus:		
8		16		In the morning	h. m.
9		28		Eclipse at	1 56
10	Sag.	10	The begin-	total dark- ness	} at 3 9
11		22	ing of the		
12	Cap.	5	The middle of the eclipse at	3	58
13		18		total dark- ness	} at 4 51
14	Aqu.	1	The end		
15		15	of the	whole eclipse at 6 0	
16		30	From the begin. to the end is	4	4
17	Pis.	15			
18		30	All this Eclipse from the begin-		
19	Ari.	15	ning to the end, will be seen at		
20		30	London; for the moon sets not til		
21	Tau.	15	a quarter of an hour past 6, wher-		
22		30	as the eclipse ends just at 6. This		
23	Ge.	14	eclipse will be seen (in some parts		
24		28	of it) in most parts of Europe,		
25	Can.	11	Africk and America, and may be		
26		24	of good use to Sea-men to finde		
27	Leo	7	the longitude of places by.		
28		19			
29	Vir.	1			
30		13			
31		25			

A 4

April hath xxx dayes.

Full Moon the 2 day, 9 hour 31 min. afternoon
 Last quarter the 30 day, 6 hour 49 min. afternoon

		Sun rise		set	decl.	Tide		Lod.		set
1	6	5	16	6	44	8	37	11	3	1A 57 4 39
2	7	5	14	6	46	8	59	11	42	2 42 11 10
3	B	Palm L. day		9	21	12	22	3	20	8 2
4	2	5	10	6	50	9	42	1	m 3	3 57 9 15
5	3	5	25	57	Y	10	41	48	4	28 10 30
6	4	5	6	6	54	10	25	2	36	5 0 11 41
7	5	5	4	6	56	10	46	3	27	5 31 12 46
8	6	5	2	6	58	11	74	20	6 m	6 m 46
9	7	Sun in Taur.				11	28	5	13	6 48 1 38
10	B	Easter day				11	48	6	6	7 37 2 17
11	2	4	58	7	2	12	8	6	59	8 35 2 45
12	3	4	56	7	4	12	28	7	48	9 36 3 5
13	4	5	3	44	5	12	48	8	36	10 42 3 21
14	5	4	52	7	8	13	7	9	24	11 49 3 35
15	6	4	50	7	10	13	27	10	13	12 54 3 46
16	7	4	49	7	11	13	47	11	4	1A 59 4 0
17	B	Lords day				14	6	11	58	2 58 2 sets
18	2	4	45	7	15	14	25	12	54	3 49 9 35
19	3	4	43	7	17	14	43	1A	53	4 33 11 3
20	4	5	10	30	5	15	22	54	5	11 12 14
21	5	4	40	7	20	15	20	3	53	5 48 m 14
22	6	4	38	7	22	15	38	4	51	6 m 29 1 7
23	7	George. 7 24				15	55	5	43	7 13 1 42
24	B	Lords day				16	13	6	30	8 3 2 4
25	2	Mark. Qu. pa. Excep				7	13	8	51	2 21
26	3	Retur. Brev.				16	46	7	53	9 43 2 35
27	4	Term begin.				17	3	8	32	10 35 2 45
28	5	4	28	7	32	17	19	9	10	11 29 2 59
29	6	5	19	11	5	17	35	9	47	12 20 3 3
30	7	4	25	7	35	17	51	10	27	1A 12 3 13

April hath xxx. dayes.

New moon 17 day, 10 hour 57 minutes morning
First quarter 23 day, 11 hour 5 minutes afternoon

place

- 1 Libra 7 The rising and setting of the ☾ is
2 19 very uncertain, not to be found by any
3 Scor. 1 constant rule. Sometimes it rises 3 or
4 13 4 nights together and differs not an
5 25 hour, as at the full moons in Harvest,
6 Sag. 7 which the Country people observe, not
7 19 without some wonder. Sometimes it
8 Cap. 2 differs above an hour in a day. And
9 14 this is likewise the cause of the diffe-
10 27 rent Appearance of the new ☾, which
11 Aqu. 11 is sometimes not til the 3 or 4 day, &
12 24 sometimes on the same day, especially
13 Piscis 9 if the Moon changeth betimes in the
14 23 morning. Nay, it is possible, as Plinie
15 Ari. 8 reports of Lynceus, to see the old ☾
16 23 rising in the morning, and the new
17 Taur. 8 moon setting at night; as wil go nigh
18 23 to happen on the 17 day of this April.
19 Gem. 8 But it will be more apparant on the 6
20 23 of May next year, at which time the
21 Canc. 7 Moon changeth about noon: the old
22 20 Moon riseth before the Sun 49 min.
23 Leo 3 and the new Moon sets after the Sun
24 16 58 m. the distance of the Moon from
25 28 the Sun is about 7 degrees, so that
26 Virg. 10 the 134 part of the Moons visible di-
27 22 ameter will be enlightened: which
28 Lib. 4 may very well be seen by those who
29 16 have a good sight, if the air be any
30 27 thing cleer.

May hath xxxi dayes.

Full moon the 2 day, 1 hour 15 minnies afternoon
 Last quarter 10 day, 3 hour 24 minutes morning.

Suns rise		set	(*) decl.	D south-side Lō.		D sun	
1	B Phil. & James	18	6 11	8 2	A 3	3	25
2	2 Tres Pasch.	Excep	11 53	2	53	D rise	
3	3 Returna brev.	18	36 12	41 3	37 9	36	
4	4 Appearance	18	50 1m	31 4	17 10	42	
5	5 4 16	7 44	19	42	24 4	52	11 38
6	6 ☉ 25 55	☿	19	18 3	17 5	25	12 21
7	7 4 14	7 46	19	32 4	10 5	59	M. 21
8	B Lords day	19	45 5	16m	37 0	51	
9	2 Menſe Paſch.	Excep	5	50 7	20 1	11	
10	3 Return. Brev.	20	10 6	36 8	10 1	28	
11	4 Appearance	20	22 7	23 9	3 1	41	
12	5 4 7	7 53	20	34 8	10 10	6 1	54
13	6 ☉ 2 37	☿	20	45 8	58 11	12 2	7
14	7 4 5	7 55	20	57 9	48 12	21 2	21
15	B Lords day	21	4 10	42 1	32 2	39	
16	2 Quinq. Paſc.	Excep	11 40	2 38	D ſets		
17	3 Return. Brev	21	28 12	41 3	37 9	53	
18	4 Appearance	21	37 1A	42 4	25 10	56	
19	5 Aſcenſion d	21	47 2	41 5	4 11	48	
20	6 Craft. Aſcenſ.	21	56 3	36 5	37 12	5	
21	7 Exception	22	4 4	25 6	10	Mo. 5	
22	B Lords day	22	12 5	11 6	46 0	24	
23	2 Term ends	22	20 5	53 7	23 0	40	
24	3 55	8 5	22	27 6	32 8	50	51
25	4 ☉ 14 05	☿	22	34 7	9 8	47 0	59
26	5 3 53	8 7	22	41 7	46 9	34 1	8
27	6 3 52	8 8	22	47 8	25 10	26 1	18
28	7 3 51	8 9	22	53 9	6 11	24 1	29
29	B Whiſunday	22	58 9	50 12	24 1	43	
30	2 3 50	8 10	23	3 10	36 1	24 2	3
31	3 ☉ 19 49	☿	23	8 11	26 2	24 2	29

Cellar walls 26
+ by 6

Do 72

+

Cellar stairs 26
+ 7

New house

Ceiling 15
+ 15

walls 60
by 7

May hath xxxi dayes.

New moon 16 day, 6 hour 47 minutes afternoon
First quarter 24 day, 0 hour 24 minutes morning

place		
1	Scor. 9	
2	21	To know the time of the night
3	Sag. 4	by the Moon.
4	16	First finde out in the proper
5	29	column of the Almanack, the time
6	Cap. 11	of the Moons coming to the South
7	24	that day ; which because it is there
8	Aqu. 7	according to her place at noon,
9	21	therefore for every hour that it is
10	Piscis 4	past noon, add two minutes ; so
11	18	you shall have the true time of the
12	Ari. 3	moons southing for that hour of
13	17	the night. Then go to a Sun-di-
14	Taur. 2	all, and look at what hour the sha-
15	17	dow of the moon stands, and add
16	Gem. 2	this to the former number : so you
17	16	shall have the true hour of the
18	Canc. 1	night.
19	15	The example hereof follows on
20	28	the next leaf.
21	Leo 12	
22	24	
23	Virg. 7	
24	19	
25	Lib. 0	
26	12	
27	24	
28	Scor. 6	
29	18	
30	Sag. 0	
31	12	

The

June hath xxx. dayes.

Full moon the 1 day, 3 hour 10 minutes morning

Last quarter 8 day, 9 hour 46 minutes morning

		Suns rise	set	(°) decl.	fourth. Tide	Lō.	rise
1	4	3 49	8 11	23 12	12 18	3 A 16	9 A 30
2	5	3 49	8 11	23 16	1 m 12	4	10 15
3	6	⊙ 22 40	II	23 19	2	6 4	42 10 49
4	7	3 48	8 12	23 22	2	58 5	14 11 14
5	8	L.d. Trinity	23 25	3	48 5	45	11 32
6	1	Craft. Trinit.	23 27	4	35 6 m	20	11 45
7	3	Except.	23 29	5	19 6	53	11 55
8	4	Return. Brev.	23 30	6	5 7	35	12 9
9	5	Corp. Christ	23 31	6	51 8	26	Mo 9
10	6	Term begins	23 31	3	39 9	22	0 22
11	7	Longest day.	23 31	8	29 10	32	0 37
12	8	Lords day	23 31	9	23 11	47	0 57
13	2	Octav. Trinit	Except	10 22	1 A 6	1	25
14	3	Return. Brev.	23 29	11 23	2 19	2	7
15	4	Appearance	23 28	12 22	3 20	3	10 15
16	5	3 48	8 12	23 26	1 A 20	4	9 54
17	6	⊙ 6 0	⊙	23 23	2 12	4 46	10 20
18	7	3 48	8 12	23 20	3 0	5 15	10 36
19	8	Lords day	23 17	3 44	5 42	10 49	
20	1	Quind. Trin.	Except	4 24	6 m 9	11 0	
21	3	Return. Brev.	23 10	5 36	39 11	10	
22	4	Appearance.	23 5	5 41	7 12	11 19	
23	5	3 50	8 10	23 0	6 19	7 51	11 30
24	6	John Bapt.	22 55	6 58	8 44	11 44	
25	7	3 52	8 8	22 50	7 42	9 28	12 1
26	8	Lords day	22 44	8 26	10 28	Mo. 1	
27	2	Tres Trinity.	Except	9 15	11 36	0 24	
28	3	Return. Brev.	22 30	10 7	12 46	0 58	
29	2	Ter. Term	ends.	11 11	1 A 55	1 45	
30	3	3 56	8 4	22 15	12 0	3 0	2 rise

1	: 77 + 272 4 3	
2	: 77 + 272 2 77	00.03:-
3	77 + 272 2 77	
4	: 47 + 77 / 42 90 27	
5	: 47 + 77 / 42 90 27	
6	: 77 + 272 2 77	00.18:-
7	: 77 + 272 2 77	01.01:-
8	: 77 + 272 2 77	00.03:-
9	: 77 + 272 2 77	00.04:-
10	: 77 + 272 2 77	01.01:-
11	: 77 + 272 2 77	26.00:-
12	: 77 + 272 2 77	05:-
13	: 77 + 272 2 77	02.12:-
14	: 77 + 272 2 77	00.03.8
15	: 77 + 272 2 77	00.02.6
16	: 77 + 272 2 77	00.01.9
17	: 77 + 272 2 77	00.00.9
18	: 77 + 272 2 77	00.01.9
19	: 77 + 272 2 77	00.01.9
20	: 77 + 272 2 77	00.01.9

sold to Geo: upon the 13th of June
 4 ewes ——— 21: 10: -
 10 sheep ——— 04: 10: -
 3 Lambs ——— 00: 14: 6
 2 ewes & 2 barrows 19: - -
 9 sheep ——— 03: 10: -

has to draw 2 ewes most
 about the 28th of this month

@ 2 more the 6th of July

@ 2 more the 13th of July

@ the 9 sheep at Bathurst

For in part of the first
 Parcel of land — 15: — —
 For the main part of
 the last Parcel — 100. 10. —
 of shop & sundry —
 For 1000 Lams — 100. 14. 6
 For the last of June — 11: — —
 For the 14 of July — 13: — —

June hath xxx dayes.

New moon 15 day, 5 hour 8 minutes morning
 First quarter 22 day, 5 hour 16 minute afternoon
 Full moon 30 day, 3 hour 22 minutes afternoon.

D place.		
1	Sag. 25	
2	Cap. 8	
3	21	
4	Aqu. 4	
5	18	
6	Pis. 1	12 50 of this Month 8
7	25	10 Quarts of 18 30: 10
8	29	
9	Ari. 13	
10	27	The 26 of June 1653 the 7 th m.
11	Tay. 11	Moon is south by the 8. or 26
12	26	Almanack at
13	Gem. 10	Suppose the time of the
14	25	night to be about 11 of
15	Can. 9	the clock, for which you
16	23	must add
17	Leo 6	
18	20	So the Moons time is — 8 48
19	Virg. 3	Now, suppose the sha-
20	15	dow to be at: — 2 30
21	27	These two added to-
22	Lib. 8	gether, make — 11 18
23	20	Which is the true time of the night.
24	Scor. 2	
25	14	Note onely, if these two num-
26	26	bers being added, make above 12,
27	Sag. 8	you need reckon onely the over-
28	21	plus, and that shews the time in
29	Cap. 4	the morning.
30	17	

July hath xxxi dayes.

Last quarter the 8 day, 8 hour 10 minutes morning
New moon 14 day, 0 hour 57 minutes afternoon

Suns rise set decl. D south. Tide Lō. D rise

1	6	☉	19	07	☾	22	8	12	49	3	A	44	9	A	11
2	7	3	57	8	3	21	59	1	m	4	14	24	9	30	
3		H	Lords	day		21	51	2		29	4	56	9	47	
4	2	3	59	8	1	21	41	3		16	5	25	9	57	
5	3	4	1	7	59	21	32	4		26	m	53	10	11	
6	4	☉	24	5	☾	21	22	4		44	6	23	10	23	
7	5	4	3	7	57	21	12	5		34	7	6	10	37	
8	6	4	4	7	56	21	1	6		24	7	56	10	56	
9	7	4	5	7	55	20	51	7		16	8	55	11	21	
10		B	Lords	day		20	39	8		12	10	9	11	58	
11	2	4	7	7	53	20	27	9		10	11	29	12	50	
12	3	4	7	7	52	20	15	10		10	12	50	M	50	
13	4	☉	0	46	☾	20	3	11		7	2	A	21	57	
14	5	4	19	7	49	19	51	12		13		1	D	sets	
15	6		Swithin	48		19	38	12		51	3	46	8	A	39
16	7	4	14	7	46	19	25	1	A	37	4	21	8	54	
17		B	Lords	day		19	11	2		18	4	49	9	4	
18	2	4	17	7	43	18	57	2		59	5	14	9	13	
19	3		Dog da. beg.			18	43	3		37	5	38	9	24	
20	4		Margaret			18	28	4		16	6	M	49	35	
21	5	4	21	7	39	18	13	4		55	6	32	9	47	
22	6		Mary Magd.			17	58	5		37	7	8	10	0	
23	7	4	25	7	35	17	43	6		16	7	48	10	19	
24		B	Lords	day		17	27	7		7	8	45	10	50	
25	2		James Apost.			17	11	7		58	9	49	11	30	
26	3	4	30	7	30	16	55	8		52	11	3	12	29	
27	4	4	31	7	29	16	39	9		46	12	18	M	29	
28	5	☉	15	7	☾	16	22	10		41	1	A	30	1	50
29	6	4	35	7	25	16	4	11		34	2	32	D	rise	
30	7	4	36	7	24	15	47	12		26	3	24	7	53	
31		B	Lords	day		15	29	1	m	13	4	48		6	

1 : 75 + 2 - 90 = 100.18
2 : 75 + 0.75 - 100 = 00.0.5
3 : 75 + 0.25 - 100 = 00.2.6

4 | 25/27
5 | 22/23 - 4 hrs — 100.2 —

6. $26^{\circ} 41' N$, $102^{\circ} 26' W$

149 2 25 41 24 4548

$\frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$

$\mu^2 = 2 \frac{1}{2} \times 2 \frac{1}{2} = 12.5$ — 08.15.
 $\mu^2 = 2 \frac{1}{2} \times 2 \frac{1}{2} = 12.5$ — 27.00 — 750 6.15.

22-4-2 916 902 2 2/2 101 05.
2-4-7 11 5 - 12:00

87 12
~~23 14~~ 150,01-05

$\gamma_1 = 0.98$

$\frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$

12 218 232 — 00.02.
210 4-05 — 00.00.

18:50/12 - 112.50.03.
18:50/12 - 112.50.05.

$\frac{1}{2} \times 100 = 50.05$
 $\frac{1}{2} \times 100 = 50.05$

14 : 34 n 36 - 10:47 00. 00.
15 : 1-4 99 913 924:91. -

16. 2444 44 2. 11. 01.
 21. 5744 1; 2. - 00. 03.

1000 — 2 1/2 1/2 1/2

72 p 2 1 32 — 00. 02. 8
 p 2 8 6 1 2 4 0 0 00. 02. 10
 16 p 2 8 7 p 4 8 4 3 00. 15. —
 p 2 8 7 p 4 3 00. 02. —
 : 4 1 1 2 4 1 2 4 7 7 04. 12. 8
 : 2 2 4 4 0 0 0 13. 00. —
 — 1 2 1 p 1 2 4 2 — 01. —
 2 2 2 4 1 2 7 0 1 2 4 10. —
 2 2 2 4 1 2 7 0 1 2 4 10. —
 25 : 1 2 1 2 4 4 0 0 0 1 2 4 12 4
 : 1 2 1 2 4 4 0 0 0 1 2 4 12 4
 : 1 2 1 2 4 4 0 0 0 1 2 4 12 4
 27 : 1 2 1 2 4 4 0 0 0 1 2 4 12 4
 : 1 2 1 2 4 4 0 0 0 1 2 4 12 4
 140 : 1 2 1 2 4 4 0 0 0 1 2 4 12 4
 : 1 2 1 2 4 4 0 0 0 1 2 4 12 4
 : 1 2 1 2 4 4 0 0 0 1 2 4 12 4
 : 1 2 1 2 4 4 0 0 0 1 2 4 12 4

Anterior cycling
 + by 2
 13
 by 8

July bath xxxi days

First quarter 22 day, 10 hour 40 minutes morning

Full moon 30 day, 1 hour 30 minutes morning

place	
1	Aqu. 1
2	14
3	28
4	Pis. 12
5	26
6	Ari. 10
7	24
8	Tau. 8
9	22
10	Gem. 6
11	20
12	Can. 4
13	18
14	Leo 1
15	15
16	27
17	Virg. 10
18	22
19	Lib. 4
20	16
21	28
22	Scor. 10
23	22
24	Sag. 4
25	16
26	29
27	Cap. 12
28	25
29	Aqu. 9
30	23
31	Pis. 7

then ceiling

+ by 16
by 14

and walls

+ 60
8

try ceiling

+ by 16-6
by 11

walls 55

by 8

August hath xxxi dayes.

Last quarter the 5 day, 7 hour 52 minutes afternoon

New moon 13 day, 1 hour 23 minutes morning

Suns rise		set	(decl.)	South	Tide	Lō.	rise
1	2	Lambs	7 20	15 12	2	M 2	4 A 39 8 A 20
2	3	4 41	7 19	14 54	2	49 5	8 8 32
3	4	4 43	7 17	14 35	3	36 5	36 8 45
4	5	☉ 22 48	☉	14 17	4	26 6	M 99 3
5	6	4 46	7 14	13 58	5	18 6	52 9 25
6	7	4 48	7 12	13 39	6	13 7	44 9 58
7	8	Lords day.		13 20	7	11 8	49 10 45
8	2	4 52	7 8	13 08		9 10	5 11 47
9	3	☉ 26 39	☉	12 41	9	7 11	26 1 2
10	4	Laurence		12 21	10	1 12	38 1 M 2
11	5	4 57	7 3	12 0	10 51	1 A 43	2 24
12	6	4 59	7 1	11 41	11 37	2 38 3	46
13	7	☉ 0 30	☉	11 20	12 22	3 11	sets
14	8	Lords day		10 59	1 A 23	56 7 A 27	
15	2	Assum. Mary.		10 39	1 41	4 24 7	36
16	3	5 6	6 54	10 18	2 20	4 50 7	47
17	4	5 8	6 52	9 57	3 05	15 7	58
18	5	☉ 5 20	☉	9 35	3 41	5 41 8	13
19	6	5 12	6 48	9 14	4 23	6 M 98	30
20	7	5 14	6 46	8 52	5 96	44 8	54
21	8	Lords day.		8 30	5 59	7 29 9	31
22	2	5 18	6 42	8 9	6 51	3 26 10	20
23	3	5 20	6 40	7 47	7 44	9 30 11	26
24	4	Bartholom.		7 25	8 38	10 45 12	43
25	5	☉ 12 7	☉	7 29	31 11	58 M. 43	
26	6	5 26	6 34	6 40	10 23	1 A 62	7
27	7	Dog days end		6 17	11 13	2 8 3	36
28	8	Lords day.		5 55	12 23	2 2	rise
29	2	5 31	7 29	5 32	12 51	3 46 6 A 47	
30	5	☉ 16 59	☉	5 9	1 m 39	4 22 7	3
31	4	5 35	7 25	4 46	2 32	5 07	20

August hath xxxi dayes.

First quarter 21 day, 2 hour 22 minutes morning

Full moon 28 day, 10 hour 58 minutes morning

place
 1 Pis. 21 The 13 of this August there will be
 3 Ari. 6 another small eclipse of the Sun; but
 3 20 not visible in any part of the habitable
 4 Tau. 4 world; therefore I shall let it pass.
 5 18

6 Ge. 3 But on Sunday noon the 28 of this
 7 18 month there will be a great eclipse of
 8 Can. 0 the moon: which though it wil not be
 9 14 seen in England, yet rather by our Anti
 10 27 pedes: Yet because some seamen may
 11 Leo 10 make observation of it in those parts,
 12 23 and thereby find out the longitude of
 13 Vir. 6 those places, I shall give you the time of
 this Eclipse in the Meridian of London.

		h.	m.	
14	18	The beginn of this Eclipse at	8	59
15	Lib. 0	the beginn of total darknes at	10	3
16	12	the middle of the Eclipse at	10	53
17	26	the end of total darknes at	11	43
18	Scor. 6	the end of the eclipse at	12	47

} morning.

19 18 This Eclipse and the other in March
 20 30 will be very great, being totall and
 21 Sag. 12 Central And they so fall out, that some
 22 24 part of one of those two will be seen in
 23 Cap. 7 most places of the world. So that if
 24 20 Seamen would make observation of the
 25 Aqu. 3 time, either of the beginning or end of
 26 17 the Eclipse or total darknes in all pla
 27 Pis. 0 ces where they shall happen to be, and
 28 16 confer their observations with some Ar
 29 Ari. 0 tists, hereby the longitude of all places
 30 15 might be certainly known; which are
 now very uncertainly reported to us.

And know wthall, that if this op
 portunity be neglected, there will not
 be the like again in many yeers.

September hath xxx dayes.

Lalt quare: 4 day, 2 hour 20 minutes morning
New moon 11 day, 6 hour 10 minutes afternoon

	Sun's rise	set	(decl.)	South	Tide	Lo	rise
1	5	G 1 s	6 23 4	24 3	11 24 5	3 17	40
2	6	19 55	7 4	0 4	20 6	M 68	9
3	7	5 41	6 19 3	37 5	18 6	5 28	51
4	8	Lords day	3 14 6	17 7	7 49 9	4 8	
5	2	5 45	6 15 2	51 7	14 8	5 21 11	1
6	3	23 49	7 2	28 8	10 10	6 12 22	
7	4	5 49	6 11 2	4 9	1 11	16 M 22	
8	5	Lady Fair	7 1	41 9	46 12	20 1 41	
9	6	5 53	6 7 1	18 10	30 1 A	46 2 54	
10	7	5 55	6 5 0	54 11	12 2	7 4 14	
11	8	Lords day	0 23 1	11 5	12 3	10 5	
12	2	5 59	6 10 0	7 12	30 3	27 0 A	5
13	3	0 41	0 0	16 1	A 9 4	16 16	
14	4	6 3	5 57 0	40 1	51 4	31 6 30	
15	5	6 5	5 55 1	32 3	33 5	06 46	
16	6	6 7	5 53 1	27 3	18 5	25 7 6	
17	7	6 9	5 51 1	50 4	6 5	55 7 37	
18	8	Lords day	2 14 4	57 6	m 33 8	22	
19	2	6 12	5 48 2	37 5	48 7	18 9 17	
20	3	6 14	5 46 3	16 4	18 15	10 32	
21	4	Matthew Ap	3 24 7	32 9	14 11	51	
22	5	6 18	5 42 3	47 8	23 10	13 12 13	
23	6	10 31	4 11 9	12 11	31 1 m	13	
24	7	6 22	5 38 4	34 10	0 12	37 2 41	
25	8	Lords day	4 57 10	50 1 A	42 4	9	
26	2	6 26	5 34 5	20 11	39 2	37 2 rise	
27	3	6 28	5 32 5	44 12	30 3	27 5 30	
28	4	15 28	6 7 1 m	23 4	12 5	49	
29	5	Michael Arc	6 37 2	20 4	50 6	14	
30	6	6 34	5 26 6	52 3	10 5	27 6 52	

1 : 24 42h: 11 2/10 5h 12-03. 19: -
 2 : 24 22 4 40: 24 ——— 05: -
 3 : 24 22 4 40: 24 ——— 00. 07. 6
 4 : 24 22 4 40: 24 ——— 00. 08. 6
 5 : 24 22 4 40: 24 ——— 03. 15. -
 6 : 24 22 4 40: 24 ——— 11. 09. -
 7 : 24 22 4 40: 24 ——— 03. 02. -
 8 : 24 22 4 40: 24 ——— 32. 10: -
 9 : 24 22 4 40: 24 ——— 00. 15. 10
 10 : 24 22 4 40: 24 ——— 01. 00. 8
 11 : 24 22 4 40: 24 ——— 00. 03. -
 12 : 24 22 4 40: 24 ——— 00. 01. 6
 13 : 24 22 4 40: 24 ——— 00. 02. 6
 14 : 24 22 4 40: 24 ——— 00. 05. -
 15 : 24 22 4 40: 24 ——— 00. 05. -

Fi
Fu

September hath xxx dayes

First quarter 19 day, 8 hour 28 minutes afternoon

Full moon 26 day, 8 hour 9 minutes afternoon

place

1	Tau.	15
2		29
3	Ge.	13
4		27
5	Cin.	11
6		24
7	Leo	7
8		20
9	Vir.	2
10		15
11		27
12	Lib.	9
13		21
14	Scor.	3
15		15
16		26
17	Sag.	8
18		20
19	Cap.	3
20		15
21		28
22	Aqu.	11
23		25
24	Pis.	9
25		24
26	Ari.	9
27		24
28	Tau.	9
29		24
30	Gem.	9

October hath xxxi days.

Last quarter 3 day, 11 hour 3 minutes morning

New moon 11 day, 9 hour 46 minutes morning

	Sun's rise	set	☉ decl.	☽ south.	True Li	☽ rise
1	7 6 36	5 24 7	15 4	m 21 6	m 7 7	46
2	B Lords day	7 38 5	20 6	54 8	56	
3	2 6 40	5 20 8	16	17 7	49 10	19
4	3 6 42	5 18 8	23 7	88	46 11	38
5	4 22 26	5 8	45 7	56 9	48 12	56
6	5 5 46	5 14 9	88	40 10	47 M.	56
7	6 6 48	5 12 9	30 9	21 11	44 2	11
8	7 6 50	5 10 9	52 10	0 12	37 3	26
9	B Lords day	10 14 10	35 1	A 28 4	37	
10	2 6 54	5 6 10	35 11	18 2	14 5	48
11	3 6 54	5 4 10	57 11	57 2	57 2	set
12	4 6 58	5 2 11	18 12	40 3	36 4	58
13	5 2 0	24 11	39 1	A 25 4	13 5	18
14	6 7 1	4 59 12	0 2	12 4	46 5	48
15	7 7 3	4 57 12	21 3	15	16 6	26
16	B Lords day	12 42 3	52 5	48 7	18	
17	2 7 7	4 53 13	24 4	44 m 24	8 23	
18	3 Luke Evang	13 22 5	35 7	69 39		
19	4 7 11	4 49 13	42 6	25 7	57 10	59
20	5 Tres Michael	14 27 12	8 50	12 23		
21	6 Exceps.	14 22 8	0 9	52 m.	23	
22	7 Returna brev	11 41 8	46 10	56 1	48	
23	B Lords day	15 0 9	32 12	0 3	10	
24	2 Term begins	15 19 10	22 1	A 54	39	
25	3 Crispianus	15 38 11	14 2	96	12	
26	4 7 23	4 37 15	56 12	10 3	10 D	risc
27	5 Mensc Micha	16 14 1	M 94	14	51	
28	6 Simon. Jude	Excep. 2	12 4	46 5	37	
29	7 Returna brev.	16 49 3	14 5	22 6	43	
30	B Lords day	17 7 4	14 6	M 28	4	
31	2 Appearance	17 24 5	8 6	43 9	24	

8
3
9
9
3
3
8
0
9
2
6
1
7
3
4
4

October hath xxxi. dayes.

First quarter 19 day, 11 houre 8 minutes morning

Full moon 6 day, 5 houre 10 minutes morning

place.

1	Ge.	23
2	Canc.	7
3		21
4	Leo	4
5		17
6		29
7	Vir.	11
8		24
9	Lib.	6
10		18
11		29
12	Scor.	11
13		23
14	Sag.	5
15		17
16		29
17	Cap.	12
18		24
19	Aqu.	7
20		20
21	Pis.	4
22		18
23	Ari.	2
24		17
25	Tau.	2
26		17
27	Gem.	3
28		18
29	Can.	2
30		16
31	Leo	0

November hath xxx dayes

Last quarter 2 day, 0 hour 48 minutes morning
 New moon 10 day, 4 hour 19 minutes morning

Sunrise set ☉ decl. D south Tide Lō, D rise

13	Alle Saints	17	40	5	m	57	7	m	27	10	4
24	736	4	24	17	57	6	43	8	17	12	4
35	Craft. Anim.	18	13	7	25	9	6	M	4		
46	Exception	18	28	8	49	57	1	17			
57	Howd. Treas	18	44	8	43	10	51	2	29		
68	Lords day	18	59	9	21	11	44	3	38		
72	Appearance	19	13	10	11	12	38	4			
83	745	4	15	19	27	10	42	1A	31	6	
94	☉ 2736	19	42	11	24	2	20	7			
105	748	4	12	19	55	12	11	3	10		
116	Martin	4	11	20	8	1A	03	54	4		
127	Craft. Martin	20	22	1	51	4	31	5			
138	Lords day	20	34	2	41	5	46				
142	Ex. Ret. Brev.	20	46	3	32	6	M	07			
153	Appearance	20	58	4	22	6	88				
164	756	4	42	19	5	96	44	10			
175	☉ 553	21	20	5	54	7	24	11			
186	Off. Martin	21	31	6	38	8	12				
197	Exception	21	41	7	23	9	2	M			
208	Lords day	21	51	8	9	10	52				
212	Return. Brev. Appea	8	57	11	11	3					
223	82	3	58	22	9	50	12	24			
234	☉ 1150	22	17	10	48	1A	40	6			
245	84	3	56	22	25	11	48	2	48		
256	Quind. Mart.	22	33	12	47	3	42	4			
267	Exception	22	40	1	53	4	33	5			
278	Lords day	22	46	2	51	5	10	6			
282	Term ends	22	53	3	44	5	42	8			
293	89	3	51	22	59	4	32	6	15	9	
304	Andrew Ap	23	45	15	6	50	10				

November hath xxx dayes.

Winter 17 day, 11 hour 51 minutes at right
 Moon 24 day, 3 hour 34 minutes afternoon

place.

1	Leo	13
2		26
3	Vir.	9
4		21
5	Lib.	3
6		15
7		26
8	Scor.	8
9		20
10	Sag.	2
11		14
12		26
13	Cap.	9
14		21
15	Aqu.	3
16		17
17	Pis.	0
18		13
19		27
20	Ari.	11
21		26
22	Tau.	10
23		26
24	Gem.	11
25		26
26	Can.	11
27		25
28	Leo	9
29		22
30	Virg	5

December hath xxvi. dayes.

Last quarter 1 day, 6 hour 3 minutes after noon

New moon 9 day, 10 hour 42 minutes after noon

Sunrise		set	☉ decl.	D south	Tide	Lō	D rise							
1	58	10	3	50	23	95m55	7m25	12	6					
2	6	☉	21	1	↗	23	136	35	8	mo. 6				
3	7	8	11	3	49	23	177	12	8	50	1	17		
4	Lords day			23	207	51	9	40	2	26				
5	2	8	12	3	48	23	238	31	10	34	3	37		
6	3	8	12	3	48	23	269	14	11	33	4	50		
7	4	☉	26	7	↗	23	28	10	0	12	37	6	4	
8	5	8	13	3	47	23	30	10	48	1	A	40	7	13
9	6	8	13	3	47	23	31	11	37	2	35	D sets		
10	7	8	13	3	47	23	31	12	29	3	26	3	A	51
11	Lords day			short. 1A		20	4	9	5	1				
12	2	8	13	3	47	23	31	2	11	4	45	6	22	
13	3	8	13	3	47	23	30	3	0	5	15	7	41	
14	4	☉	3	16	W	23	29	3	44	5	44	8	59	
15	5	8	13	3	47	23	27	4	28	6m	11	10	18	
16	6	8	12	3	48	23	25	5	11	6	46	11	39	
17	7	8	12	3	48	23	22	5	54	7	24	1	2	
18	Lords day			23	196	42	8	28	mo. 2					
19	2	8	11	3	49	23	16	7	30	9	13	2	28	
20	3	8	11	3	49	23	11	8	24	10	26	3	58	
21	4	Thomas Ap.			23	7	9	21	11	44	5	26		
22	5	☉	11	27	W	23	2	10	23	1	A	7	6	49
23	6	8	9	3	51	22	56	11	25	2	22	8	3	
24	7	8	9	3	51	22	50	12	25	3	23	D rise		
25	Christs birth			22	44	1	21	4	0	5	32			
26	2	Stephen Mar.			22	37	2	12	4	46	7	0		
27	3	John Evang.			22	30	2	58	5	13	8	20		
28	4	Innocents.			22	22	3	40	5	40	9	35		
29	5	8	4	3	58	22	14	4	21	6	7	10	48	
30	6	☉	19	37	W	22	5	5	0	6	36	11	59	
31	7	8	2	3	58	21	56	5	38	7	9	Morn		

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orn

A Tide Table.

1	London. Tinnmouth. Hartlepool. Whit-	b. m.
	bay. Amsterdam. Rotterdam. Gascony.	0 0
2	Barwick Bridlington bay. Burdeaux. Flush-	0 45
	ing. Flambarrow. Fountnes. Ostend.	
3	Baltamoor. Corkhaven. Kingsale. Calice.	1 30
	Scarborough. Severn. Bloy. 7 Miles.	
4	Falmouth. Foy. Humber. Newcastle. Garn-	2 15
	fer. Dartmouth. S. Mallows. Caldy.	
5	Plymouth. Hull. Lyn. Lundy. Antwerp Way-	3 0
	mouth. Holms of bristow. Davids.	
6	Bristow. Foulnes. Start-point. Lanion. Wa-	3 45
	terford.	
7	Milford. Bridewater. Exwater. Lands-end	4 30
	Cape cleer. Abermoricke.	
8	Portland. Peterport. Hartflew. Hague. Mag-	5 15
	nes-tound. Dublin. Lambay.	
9	Pool. Hellen. Isle of Man. Carnes. Faire-	6 0
	Isles. Dunbar. Deipe.	
10	Needles. O. ford. Laysto Casket Lux. South	6 45
	and North forelands.	
11	Yarmouth. Dover. Harwich, in the Frith.	7 30
	Bullin. John de luce. Calice road.	
12	Rye. Winchesley. Gorend. Calshor. Thames	8 15
	mouth. Rhodes.	
13	Quinborrow. Southampton. Portsmouth.	9 0
	Wight. Beachy. Spirs. Dunkerk.	
14	Rocheſter. Malden. Aberden. Redban. West	9 45
	of the Nour. Black tail.	
15	Graveſend. Downes. Rumney. Tener. Silly	10 30
	Blacknes. Ramkins. Senihead.	
16	Dundee. S. Andrews. Lisbon. S. Lucas. Bel-	11 15
	Isle. Holy-Isle.	

This Table ſhews the difference of the Tides in
 theſe places, from the tides at London bridge.
 Therefore if you add this difference of any place,
 to the time of high tide at London any day (as it is
 ſet down in the Almanack) ſo you ſhall have the
 true time of the tide in any of theſe places. Note,
 if your ſum exceed 12 h. to count only the overplus.

A Table shewing the true Interest for any sum of money from one shilling to an hundred pounds for a year or any time under, after the rate of 6. per centum.

	1 Months		3 Months		6 Months		9 Months		12 months	
	sh	p	sh	p	sh	p	sh	p	sh	p
Shilling's.	1	0 0	6	0 0	18	0 0	36	0 0	54	0 0
	2	0 0	12	0 0	36	0 0	72	0 1	108	0 1
	3	0 0	18	0 0	54	0 1	108	0 1	162	0 2
	4	0 0	24	0 0	72	0 1	144	0 2	216	0 3
	5	0 0	30	0 0	90	0 1	180	0 2	270	0 3
	6	0 0	36	0 1	108	0 2	216	0 3	324	0 4
	7	0 0	42	0 1	126	0 2	252	0 3	378	0 5
	8	0 0	48	0 1	144	0 2	288	0 4	432	0 5
	9	0 0	54	0 1	162	0 3	324	0 4	486	0 6
	10	0 0	60	0 1	180	0 3	360	0 5	540	0 7
Pounds.	1	0 1	2	0 3	6	0 7	9	0 10	18	0 2
	2	0 2	4	0 7	12	0 13	18	0 19	36	0 4
	3	0 3	6	0 10	18	0 19	27	0 28	54	0 7
	4	0 4	8	0 12	24	0 24	36	0 37	72	0 14
	5	0 6	10	0 16	30	0 30	45	0 46	90	0 28
	6	0 7	12	0 19	36	0 37	54	0 54	108	0 40
	7	0 8	14	0 21	42	0 43	63	0 63	126	0 48
	8	0 9	16	0 24	48	0 49	72	0 81	144	0 56
	9	0 10	18	0 28	54	0 54	81	0 90	162	0 64
	10	0 11	20	0 30	60	0 60	90	0 100	180	0 72
Tens of Pounds.	10	0 1	0 0	3 0 0	6 0 0	9 0 0	18 0 0	27 0 0	36 0 0	54 0 0
	20	0 2	0 0	6 0 0	12 0 0	18 0 0	27 0 0	36 0 0	54 0 0	81 0 0
	30	0 3	0 0	9 0 0	18 0 0	27 0 0	36 0 0	54 0 0	81 0 0	108 0 0
	40	0 4	0 0	12 0 0	24 0 0	36 0 0	54 0 0	81 0 0	108 0 0	144 0 0
	50	0 5	0 0	15 0 0	30 0 0	45 0 0	63 0 0	90 0 0	126 0 0	180 0 0
	60	0 6	0 0	18 0 0	36 0 0	54 0 0	81 0 0	108 0 0	144 0 0	216 0 0
	70	0 7	0 0	21 0 0	42 0 0	63 0 0	90 0 0	126 0 0	162 0 0	252 0 0
	80	0 8	0 0	24 0 0	48 0 0	72 0 0	108 0 0	144 0 0	180 0 0	288 0 0
	90	0 9	0 0	27 0 0	54 0 0	81 0 0	126 0 0	162 0 0	216 0 0	324 0 0
	100	0 10	0 0	30 0 0	60 0 0	90 0 0	135 0 0	180 0 0	240 0 0	360 0 0

This Table is divided into three parts; The first for shillings, from one shilling to ten shillings: the second for pounds, and the third for tens of pounds. In the two first parts the Interest is set down in *li. s. d.* that is, in shillings, pence, and hundred parts of a penny. I have thus divided the penny into an hundred parts, because else the Table could not be exact in the lesser sums, as it ought to be. And you may thus reckon them into farthings, 25 of these parts being a quarter of 100, are one farthing; 50 being half of 100, are an half penny, and 75 being 3 quarters, are 3 farthings; The last part of the Table needs not these small Fractions, and therefore is reckoned in *li. s. d.*

Now to find the Interest of any sum of money for any time; first look the sum of money on the side of the Table, then find out the time required at the head of the Table, and the square meeting of those two, you shall find the Interest. Only note, if you cannot find your sum of money in one line, you must take it out by 2 or 3 parts, and add all of them together; thus the Interest of 45 *li.* for 6 months is thus found

	<i>li.</i>	<i>s.</i>	<i>d.</i>
40 <i>li.</i> for 6 months comes to	1	4	0
5 <i>li.</i> for 6 months comes to	0	3	0
Which added together make	1	7	0

And thus by parting your sum into parts, you may find the Interest of any sum above 100 pounds though it be 1000 or 10000 *li.*

Thus if 100 *li.* for 12 months, yeelds 6. 0. 0.
 Then 1000 *li.* being 10 times so much, yeelds 60. 0. 0.
 And 10000 *li.* being 10 times more, yeelds 600 0. 0.

A Table of the value of Leases or Annuities,
from 1 to 31 years. at 6, 8, 10 & 12 ^l. per cent.

6 per cent.			8 per cent.			10 per cent.			12 per cent.		
li.	sh.	p.	li.	sh.	p.	li.	sh.	p.	li.	sh.	p.
1	0	18	10	18	6	0	18	2	0	17	10
2	1	16	8	15	8	1	14	8	1	13	10
3	2	13	5	12	6	2	9	8	2	8	0
4	3	9	3	6	3	2	3	4	3	0	9
5	4	3	3	19	10	3	15	9	3	12	1
6	4	17	4	12	5	4	7	1	4	2	3
7	5	10	8	5	4	1	18	4	4	11	3
8	6	3	2	5	14	11	5	6	8	19	4
9	6	15	0	6	4	11	5	15	2	6	6
10	7	6	2	6	14	2	6	2	10	5	13
11	7	16	9	7	2	9	6	9	5	5	18
12	8	6	8	7	10	8	6	16	3	6	3
13	8	16	1	7	18	1	7	2	0	6	8
14	9	4	11	8	4	10	7	7	4	6	12
15	9	13	3	8	11	2	7	12	1	6	16
16	10	1	1	8	17	0	7	16	5	6	19
17	10	8	7	9	2	0	3	0	5	7	2
18	10	15	7	9	7	5	3	4	0	7	4
19	11	2	2	9	12	1	8	7	3	7	7
20	11	8	5	9	16	4	8	10	3	7	9
21	11	14	3	10	0	4	8	12	11	7	11
22	11	19	10	10	4	0	8	15	5	7	12
23	12	5	1	10	7	5	8	17	7	7	14
24	12	10	0	10	10	7	8	19	8	7	15
25	12	14	8	10	13	6	9	1	0	7	16
26	12	19	1	10	16	2	9	3	0	7	17
27	13	3	3	10	18	8	9	4	8	7	18
28	13	7	2	11	1	0	9	6	1	7	19
29	13	10	10	11	3	2	9	7	0	8	0
30	13	14	4	11	5	2	9	8	0	1	1
31	13	17	7	11	7	0	9	9	0	1	8

These four Tables have all one use, only they differ in the value of the Interest. For though the Rate of common Interest is to be but 6 per cent. yet bargains of this nature are not so settled but that every man may make the best market he can: And therefore I have calculated these 4 Tables to these 4 Rates, that you may know what you make of your money by any such purchase.

If you would know what any Lease or Annuity is worth to continue any number of years: First look out the number of years on the side of the Table, and in that line you shall have the true value of one pound yearly, after the severall rates; and so knowing how many pounds a year the thing is worth, count so many times the value set down in the Table. Thus for example: one pound yearly rent, to last 21 years, will be worth, after the rate of 6 per cent. 11 li. 14 sh. 3 d. therefore 10 pounds a year will be worth ten times as much; which is 117 li. 2 sh. 6 d. thus you may do it for any yearly rent very exactly.

Or else after a more common way; For every pound set down in the Table, reckon the Lease is worth one years purchase; for 10 sh. reckon half a years purchase; and for 3 sh. a quarter of a year, and so proportionably for any number of shillings and pence.

You may also know the value of any Lease or land in reversion after any of these rates by these Tables. Suppose a Lease or a parcel of land to be worth 500 li. if it were in present possession, what is it worth after 12 years reversion, after the rate of 6 per cent?

Here the years of reversion being 12, I find in the Table against the 12 years, 8 li. 6 sh. 8 d. and in the line above it, 7 li. 16 sh. 9 d. which subtracted out of the former, there remains 9 sh. 11 d. and so much is every pound of the 500 li. worth in ready money; which reckoned up comes to 247 li. 16 sh. 8 d. thus you must do for any other sum of money at any of the other rates.



A Brief View of the Principles of ASTRONOMY.

THERE is nothing wherein the wonderfull power and glory of God is more visibly expressed, then in the admirable frame of this great universe of Heaven and earth. And the reasons why most men are no more affected with it, are, first the commonnesse of the things; Secondly, the ignorance of the order and causes thereof; whereas they that know any thing hereof, cannot but admire the works of God herein; as we may see by the Prophet *David*, who so often speaks hereof in the Psalms. I shall therefore as briefly and plainly as I can, shew you some part of these wonders, and then I shall shew you how these things are found out and proved to be so, that you may not take them for vain fancies, but in some measure see them to be truths.

First you must know that in this visible world there are these eminent parts which deserve a particular consideration.

1. The Globe of the Earth.
 2. The Globe of the Moon.
 3. The Globe of Mercury.
 4. The Globe of Venus.
 5. The Globe of the Sun.
 6. The Globe of Mars.
 7. The Globe of Jupiter.
 8. The Globe of Saturn.
 9. The Heaven of the fixed Stars.
- Some add to these
10. The Cristaline Heaven.
 11. The first moving Heaven.

2. Of the Earth.

This one would think should be perfectly known of us, since it is our naturall habitation wherein God hath placed us; but yet such is our ignorance heretof, that not only among the common sort, but there hath been much to do among the Learned, to prove that this great body of earth and water is exactly round like a Globe. And it hath been counted a very fable that there should be any *Antipodes* or people dwelling in any part of the earth directly under us, supposing such would be ready to drop down from the earth into the Heavens. But that the earth is round, it may appear by the round shadow of the earth upon the Moon, when she is eclipsed; And likewise by the difference of time, wherein eclipses are seen in severall places. But the most convincing Argument to prove both the roundnesse and the habitablenesse of all parts of the earth, whether wee account them above or under; is the daily experience of our Seamen, who have and do daily sail about it, specially from the East to the West. And though the earth cannot be surrounded by the North and South Poles, in regard of the cold and ice; yet by the agreement which is found between the distance and the latitude of places lying North and South, it is evident that the earth is neither flat, nor square, nor ovall (as some have imagined) but perfectly round.

The second thing worthy consideration herein is the compasse of the earth. And herein there is much difference between Ancient and Modern Writers, which ariseth partly from the difference of their measures, unknown to each other. The best account hereof I suppose is given by Mr. Norwood, who for this purpose Anno 1635 measured the distance between *York* and *London*, and so exactly taking the latitudes of those two places found that one degree in the compasse of the earth did contain 367200 of our English feet: so that the whole compasse of the earth being 360 degrees

will be 132191000 feet, which reduced into miles, according to the Statute, each mile containing 5280 feet, it yeilds 25036 miles. By this you may see this Globe of earth and water, though it seem to great some that it cannot be measured, or encompassed. yet is but a small thing considered by the rules of Art, inasmuch that a ship sailing one hundred miles every day (which it may well do) it will surround this globe in 250 daies; which is lesse then three quarters of a year.

Thirdly, It may be inquired, whether the earth be the center of the universe or not; and whether it stands still, or hath any motion?

For answer herunto, I say, it hath been the most received, and in my judgment the best grounded opinion, That this Globe of earth is the center of the universe, being without any motion, and that the Sun, Moon and Stars are moved round about it. Yet it was the opinion of *Pythagoras* and *Aristarchus* (very ancient Philosophers) that the Sun is the Center of the universe, and that this globe of the Earth is turned round about the Sun, together with the Moon and the rest of the Stars and Planets. This Theory was left off by *Ptolomy*, whom most of our following Astronomers have followed untill *Copernicus*, who revived the foresaid Hypothesis, and since that he hath had many followers. And though this may seem to be a very strange conceipt, yet they bring very probable Arguments (in point of Art) to confirme it. In answer to which I shall propound these six considerations.

First, That this opinion is at the best fortified but with probable arguments; whereas for the standing still of the earth we have daily (a sensible if not a real) experience. And though our senses may be deceived herein; yet it will be hard to prove that they are deceived.

Secondly, Though this Theory in some respects doth yeild much harmony in the places and motions of the 7 planets, giving a good account of their di-

direct and retrograde motions, without any epicycles; yet it failes much in the fixed Stars; supposing them to be so far distant from the center of the universe, as is beyond all probability. For it is certain by the most accurate observations of Tycho Brahe, and his successor Longomontanus, that there is not the least observable difference in the latitude of places observed by the fixed Stars, at any one time of the year more then other; no not to the quantity of half a minute. And therefore if this Theory be allowed, it must be granted that there is such a distance between the fixed Stars, and the Center of the world, that not only the globe of the earth, but that vast distance of the Sun from the earth (which is the semidiameter of the Suns Annual motion) must in respect thereof be but a little point, not causing halfe a minutes parallax or difference of appearance. Now if such a distance be allowed as is requisite for this purpose, observe how it will exceed all proportion. For whereas Saturn the farthest of the planets, by the consent of all Astronomers is distant from the earth but about 12000 semidiameters of the earth, the fixed Stars according to this account must be distant 7904818 semidiameters. So that the pace between Saturne and the Stars is 7892818 semidiameters, which is 658 times more then Saturn is distant from the center. Thus you see there is no proportion between this vast distance of the stars above Saturn and the planets under him. Besides, all this vast distance is but waste and useless, there being no stars nor any visible furniture therein, and God and nature makes nothing in vain.

Again, if according to this foresaid distance you calculate the quantity of the fixed stars, by their visible diameters; a star of the first magnitude will be greater then the Sun it self 86907143 times, and their true semidiameter or half the breadth of such a star, will be more then 8 times the distance which is between the Sun and the earth. But these things are so unlikely, that it makes as much against this

this Hypothesis; as the other probabilities plead for it.

Thirdly the followers of this opinion hold, that the earth hath a daily motion whereby it is turned round about upon its own Axis every day. And for this motion they bring a very plausible Argument; For by this (say they) the incredible swiftnesse of the heavens and Stars is very well saved. For if according to *Tycho* you allow the fixed Stars to be but 14000 Semidiameters distant from the earth; whereas *Ptolemy* accounts them 10000, yet the Stars neer the Equator must move every minute of a hour 240000 miles to perform its daily motion round about the earth. This motion they count too swift for any naturall body to performe; and therefore think it more likely that the earth should turn about once every day and thereby cause the rising and setting of the Sun and Stars.

This Conjecture is so probable, that many who are against the Annuall motion of the Sun, yet yeild to this daily motion: But yet I conceive that the earth is not subject to this motion neither. For if the earth should according to this opinion move every day round upon its own Axis, then, we which live upon the surface of the earth must be moved with the earth above 1000 miles every hour. Which motion though it be very slow in respect of the foresaid swiftnesse of the Stars; yet considered by itself and compared with the motion of things here below, it is exceeding swift, far surpassing the flight of the swiftest bird, or the bullet from the Cannons mouth. And therefore surely if any such motion were, we should be more sensible of it then we are.

But grant that this motion should be performed by the earth and we not sensible of it, in regard of constant use unto it; as men that are used to the sea are not troubled so much with the motion of the ship as others are: Yet judge whether it be not more likely that the Heavens, Sun, Moon
and

and Stars being all light and pure bodies, should performe the foresaid swift motion (though to us almost incredible) then that the earth (a dull and heavy body) should perform this later motion. As we see by experience that a horse being a creature of a nimble fiery temper; is better able to run 20 or 30 miles in one hour, then a snail which is a dull sluggish creature to creep one poles length, which is scarce the tenth thousand part thereof.

Consider also that this swift motion in the heavens is no more to be wondred at then the vastnesse of their circumference; and it is but reasonable to think that God who hath made them of so great compasse, hath likewise fitted them for so swift a motion. And the truth is, swiftnesse of motion depends neither upon the greatnesse or smallnesse of the creature, but upon the appointment of the Creator. Thus we see by experience the little Hare exceeds for swiftnesse both the Sheep, a midling, and the Ox a creature of the largest size; and yet is out-stripped by the Dog and Horse, creatures likewise of the middle and the larger size. So that it is neither the smaller compasse of the earth, nor the larger compasse of the Heavens which can either prove or disprove the daily motion of either. But herein the wonderfull power of God is the more magnified in making the heavens not only by their vastnesse to encompass the earth; but also by their swiftnesse dayly to surround the same.

Fourthly, Though this Theory in some things may be more plainly demonstrated by Geometry then the Theory of *Ptolomy*, being freed from those Epicycles; yet this may also be performed by the Hypothesis of *Tycho*; and the places and Aspects of the Planets may be as truly and readily calculated thereby as by this. Experience we had hereof in that late great Eclipse of the Sun the 29 of March 1651. about which most of our Writers following new Tables, according to this Hypothesis, were greatly mistaken in the
time

time of the Eclipse; reckoning it half an hour too soon; Whereas I calculating it by the Tables of Tycho, & Longomontanus, it fell out very exactly. And you shall find that in all the Eclipse observed by Tycho and Longomontanus, their Tables never failed them so much. And for the motions of the Sun and Moon there are none like them: so that you see there is no necessity of following this strange Hypothesis.

Fifthly this Opinion is against the constant sense and ordinary phrase of the holy Scriptures, which ought to be had in speciall reverence; and from which we ought to be very carefull how we vary in any thing; pretending the Scripture speaks herein, according to the sense and apprehension of common people; especially when the thing pleaded for is so unlikely and unnecessary.

Lastly, This opinion is of dangerous consequence, the followers thereof being subject to fall into many vain curiosities, and fruitlesse errors. As that the Moon and the rest of the planets and stars, may be each of them habitable places, as well as the earth; and some have written largely to prove that there is a world in the Moon, and that our earth gives light unto them, as the Moon doth unto us; and so account the earth to be as one and the same kind with the stars and planets; whereas it is plain in Gen. 1. that God made the earth on the third day of the creation, and furnished it with all sorts of Herbs and trees; but the Sun, Moon, and Stars were not made untill the fourth day. Which is enough to prove them creatures of a different kind and nature; & we cannot find the least hint that God made the Moon, &c. for an habitable place, or the earth to give light to the Heavens; but ver. 14, 15. it is plainly expressed, that, God said Let there be lights in the Firmament of Heaven, to separate the day from the night. And let them be for lights in the firmament of heaven, to give light upon the earth. And it was so. There is not a syllable of the earths

earth's mutuall and reciprocall light.

To conclude this particular, most of you I suppose are ready enough to think, that these men err very much in making the Heavenly Bodies to be Earthy habitations; yet give me leave to tell you, that there is a more common and dangerous error, which we had all need to take heed of; and that is, that we do not account this earthly dunghill to be our heavenly habitation, by laying out all our care and pains upon it: But whilst we live upon the earth let our conversations be in Heaven, from whence we look for a Saviour, the Lord Iesus Christ.

2. *Of the Moon.*

It is time for me now to leave the Earth at rest in the center, and to speak of the heavenly bodies and their motions. And the Moon in the first place presents her self. being by the consent of all Astronomers placed next the earth.

First for the form or fashion of the Moon, it is round every way like a Globe. And this may be proved by the successive and proportionall light which it receives from the Sun; for if it were round and flat like a trencher; then the light of the Sun coming to the flat side, would presently spread all over it, as it doth upon the flat side of an house or upright wall.

Secondly, As for the matter of the Moon, or what substance it is made of. Those that hold the motion of the earth, they think the Moon to be very little different from the earth, having sea and land, mountains and vallies: And this they gather from the spots which are seen in the Moon, accounting those darker places to be sea, and the brighter places to be land. But I conceive the Moon to be of some like substance with the clouds: for if you look upon the Moon in the day time, you shall see many times in a fair day when the clouds are high and white, that the Moon and they are all of one colour. Again look upon the clouds in such an evening.

ing about Sun setting, and you shall perceive the clouds to reflect the light of the Sun, and to shine as the Moon doth: And this light thus reflected from the clouds and the vapours of these lower regions, is the cause of the twilight, which continueth till the Sun is 18 deg. under the Horizon, and then the shadow of the earth falling upon the clouds, doth take away their shining, just as the Moon loseth her light in her eclipse, which proceeds from the same cause. Add to this the many resemblances of many Suns and Moons, which are divers times seen in the air, which are nothing else but clouds skily formed and placed to reflect the light of the Sun unto us. All this may shew that the Moons substance doth in some sort resemble that of the clouds. And as for the duration of the Moon longer then the clouds, this it hath by Gods appointment, who also caused that cloud to guide the Israelites 40 years in the wilderness, which was a pillar of cloud by day, and a pillar of fire by night.

Thirdly, It is a common question, whether the Moon have any light of her own; or whether she receive all her light from the Sun.

For answer hereunto, consider that there are severall sorts of lights; first there are some things that have not only light in themselves, but give light to other things, as the fire and the Sun. Secondly there are some things that have no great light in themselves, yet they shine in the dark; as Glow-worms, rotten wood, and fish kins. Thirdly there are some things which may be said to have light, but this light appears best in a greater light; as white things, polished mettalls, glasses and the clouds. And such a light I conceive the Moon hath of her own, whereby she is fitted to reflect the light of the Sun to our sight. Yet I do not think, as some have supposed, that the Moon is so perfect a mirror as that the spots which we see in the moon are nothing else but the image of our earth and sea which we see herein; as when we look upon a glasse we behold our own image therein much less
do.

do I believe what some have said, that things done, or a writing set before the shining Moon may be seen and read in the Moon at an other place of the world, very far distant from it; as by the reflection of glasses it may be performed for a small distance.

Fourthly, if you demand what may be the reason of those spots which are seen in the Moon? I answer They proceed from the roughness and inequality of the Moons body. For though the Moon hath not hills and dales, mountains and valleys, yet as you see the clouds are many of them ragged things and not smooth and plain, so it may very well be in the Moon, though in regard of her distance they are not so discernable. And this supposition will very well agree with all the observations of these spots both in the new and full moon. For first in the new Moon, by reason of this inequality of the Moons body, some little spots of light will appear before the main body of light, on the tops of these rough places. And then again towards the full moon this inequality will cause much difference in the light of the moon: just as you see when the Sun shines full upon a glass window, though the window be in a manner flat, yet if the panes of glasse be never so little flanting, it will cause a difference in the reflection, and one place will seem darker then another.

Fifthly, as for the quantity of the Moons body, and her distance from the earth: How these things come to be known, I shall shew hereafter in the mean time, it shall suffice to tell you, that according to Tycho, the Moon is distant from the earth 96 Semidiameters of the earth, which reduced into English miles, is 123048 miles. And though the Moon appears so little to us in regard of this distance, yet the true diameter or breadth of the moon is 1860 miles, and the compass of it 6174 miles; so that the breadth and compass of the moon is a little more then the one quarter of the breadth and compass of the earth; and if you regard their solid proportions, the earth is 50 times bigger then the moon.

Lastly, the moon hath a fourfold motion: The first is her daily motion, wherewith it encompasseth the earth in 24 hours 48 minutes. The second is her motion in the Zodiacs, wherein she is the swiftest of all the Planets, running through all the twelve Signs in 27 dayes, 7 hours, 43 minutes. Thirdly, she hath her motion from the Sun, whereby is caused the diversity of her appearance: this motion is finished in 29 dayes 12 hours 44 minutes. Fourthly, she hath a motion of latitude from the Ecliptick line or way of the Sun; which is the reason that there are not eclipses every new moon and full moon; and this motion

is finished in 18 years, 7 months, and 12 dayes. Many good uses might be made of these motions; but of these I have, and shall speak more in its time.

3. *Of Mercury and Venus.*

I put these two planets both together; for though they have some difference in their motions; yet in some respects they are both alike: These as two diligent pages continually wait upon the Sun their Lord, being never far distant from him.

As for their order in the Heavens, Ptolomy placeth Mercury next above the Moon; and Venus next above him, both under the Sun. But herein Tycho in some sort agrees with Copernicus, and the later Astronomers all consent therein making the Sun the center of the planets, and so they place Mercury next the Sun, and Venus a little further off the Sun; supposing them to turn round about the Sun as it were in two little circles; so that either of these planets, are sometimes above, and sometimes under the Sun, And sometimes Venus may be nearer to the earth then Mercury.

Hereby also you may perceive the cause why these two planets are never very far distant from the Sun, for they can go no farther then their circles will give them scope: which for Mercury is about 29 degrees; and for Venus about 48 degrees.

Mercury, by reason of his continuall nearnesse to the Sun and the smalnesse of his body, is seldome seen. But Venus by her luster is knowne unto all men; she sometimes runs before the Sun, and then she is called the morning star. Sometimes she follows the Sun, and then she is called the evening star. And so great is her brightnesse (by reason of her nearnesse to the earth) that she is not only seen in the night, but many times in the day which many will gaze at; but the learned and diligent Tycho made a very good use of it; For by observing the distance between the Sun and Venus in the day time, and then the night following observing the distance from Venus, to some of the fixed stars, and from them to others; he thereby found out their places more exactly then by any way else he could attain too. But if such an Eclipse had happened in his time as that the last year, wherein some of the fixed stars were seen, he might have performed this conclusion with more ease and certainty. And I hope some lover of Astronomy or other hath made such use of this occasion, which would be of great con-

concerning, either for the rectifying or confirming of former observations, in this so necessary a part of Astronomy. And I hope if all have neglected it this time, that some will be diligent in it: at the next great eclipse of the Sun, Anno 1644, the 2. of August, which though it will not be altogether so great as the last was, in our Horizon, yet in other places it will be greater.

The distance of these two planets from the earth, is somewhat different, but according to their middle distance they are accounted to be removed from the earth, as the Sun is, of which you shall have more in the next Chapter. The breadth and compasse of their bodies, is thus :

Breadth of	Venus	4397	} miles.
	Mercury	2931	
Compasse of	Venus	13300	} miles.
	Mercury	9354	

4. Of the Sun.

The Sun is the principal and chiefest of all the planets and stars, being the fountain of all the light we receive ; and therefore is most fitly placed in the midst of the Heavens. As for the matter of it, it cannot be no other then pure fire, as is manifest by the effects thereof, light and heat: For though heat may be without lustre in some things, and lustre without heat in many other things ; yet heat and lustre both cannot be without fire: But this fire I speak of, you must not imagine to be any grosse fire: but pure Elementary fire, which needs not the continuall supply of fuel, but of it self is lasting and durable. For though the Psalmist saith, Psal 102, 26, that the Heavens shall wax old as a garment: this is rather by the sin of man, then by their own nature:

This Sun, as it is the most glorious, so it is the most usefull creature of all others, being not only the fountain of light, but the fountain of life unto all creatures: this made the Heathen worship him for a god; and the Jews, though better instructed, and expressly forbidden, could scarce refrain from this idolatry, but worshipped the Sun and moon. Let us take heed of this, but let us praise God for them, and wish them, who made both us and them, as we are exhorted, Psal 148. Praise him Sun and moon, praise him all ye stars of light; For he commanded, and they were created

As for the motion of the Sun; first it hath a daily motion round about the earth; by which it makes the day and night. Secondly it hath a yearly motion round about the Heavens, whereby it causeth Summer and Winter, Spring time and harvest: this course it finisheth in 365 dayes 5 Hours, 49 minutes, which odde 5 hours 49 minutes in 4 years makes up almost one whole day, and is therefore added every fourth year or Leap year. For otherwise in a little time the month of Iune would fall in the Winter, and December in the Summer, as it did in the Egyptian year. But this was thus rectified by Julius Cæsar; which account though it was far more exact then any of the former, yet by reason that those odde hours and minutes did lack 44 minutes of one day in those 4 years, it hath caused some alteration in the year since his time. For whereas the Sun in his time entred into Aries on the 25 of March, it now entereth into Aries about the 10 of March. And hereupon Pope Gregory, Anno 1582 caused ten dayes to be cut off from the old account, and this is the reason the account beyond sea is ten dayes before ours, which makes their Easter and all their moveable feasts fall most times before ours.

The distance of the Sun from the earth, according to Tycho is 1150 semidiameters of the earth, which reduced into miles, is 4580450 miles. The diameter or breadth of the Sun's body is 42600 miles; and the compasse thereof is 133886 miles; so that the compasse of the Sun is above 3 times the compasse of the earth: But if you have regard to the solid contents thereof, then the Sun by this account is 153 times bigger then the earth.

As for the daily compasse which the Sun runs in the heavens, it is 28789124 miles; so that every hour it runs 1199147 miles, which is every minute near upon 20000 miles. And yet to perform so swift and continuall a motion, the Sun needs neither the Poeticall fiction of horses to draw it, nor the (more probable) opinion of the earths daily motion, to ease it of its labour; but by the appointment of God, cometh forth as a Bridegroom out of his chamber, and rejoyceth as a mighty man to run his race: his going forth is from the ends of the heavens, and his compasse to the ends of the same, *Plal. 19. 5, 6.*

5. Of the three superior Planets, Saturn, Jupiter and Mars.

These three Planets are accounted by all Astronomers to be farther from the earth than the Sun. As for the motions of these Planets, though their daily motions are swifter than the other Planets, being farther distant from the earth, yet their periodical motions are more slow, and according to their distance from the earth so is their slowness. For Mars the nearest of these three, finisheth his course in one year and 322 days. Jupiter the next, in 11 years 318 days. Saturne the farthest, in 29 years 174 days; in these times they run through the 12 Signs in their Ecliptick.

Besides these motions, there is also a retrograde motion which not only these three, but Venus and Mercury are subject to. Indeed the Sun is exempted from it (as it were by extraordinary privilege) and the Moon avoids it by her swift motion: but Mercury and Venus, though in their mean motion equal to the Sun, yet are often driven backward.

Mercury is the most often subject hereto of all the Planets, being very unconstant in his motion, running over this motion every 116 days, being direct 91 days, and then retrograde 24 days. Saturne is more constant and leisurely in his walk, renewing this motion once in 378 days being direct 138 days and retrograde 140 days. And Jupiter his next neighbour, as it were to keep him company, walks this round in 399 days - going forward 279 days and then backward 120 days. But waike Mars, as scorning to turn his back, marches on furiously for 700 days together, yet then he is forced to counter march as fast for 80 days. Lastly, dune Venus, proud of her beauty, which she is loath to have too long hidden, or fears will be too much burned by the Sun, runs as fast as she can before him for 542 days; but when she sees the Sun will overtake her, she turns about and runs the contrary way for 42 days: that so the Sun may the sooner over shoot her, and she may again shew to the earth her glorious lustre. The semotions you may evidently see in these Planets, if you observe their situation nightly in respect of the fixed stars; but the farther grownd and demonstration hereof, I have not time to speak of.

Lastly, for the distance of these three Planets from the earth. Mars is distant 1745 semidiameters. Jupiter 3990. Saturne 10550. which being granted, their distance, breadth and compasse in miles is thus:

Breadth

	Distance,	Breadth,	Compass.
Mars	6910335	3336	10484
Jupiter	15892170	12800	40128
Saturne	42020650	21920	68891

6 Of the fixed stars.

I call these stars fixed, not because they are void of all motion: but because they keep their places very exactly one in respect of another. Inasmuch that those stars which were observed to be in a right line by Hypparchus 1700 years ago: were found so by Ptolomy in his time 1300 years ago, and continue in the same posture still, as you may see by many examples in Tycho, lib. 1. p. 134. Therefore it is very probable that they all are fixed in one sphere, and are all equally distant from the earth, since they are so uniform in their motions.

The motions of these stars are two: The one daily from East to West; the other yearly according to the order of the Signs. In their daily motion they are exceedingly swift, for the compass of their Heaven is above 19000000 of miles: so that those stars which are towards the Equator must move 240000 miles every minute of an hour. But in their other motion they are exceedingly slow, not moving one whole minute in a year, but only one degree in 70 years; so that they will be 25000 years in making their progress through the 12 Signs. This motion by the ancient Astronomers was thought to be finished in 36000 years, and is called by some the Platonick year. At which time, according to their opinion, all the stars having finished their revolutions, shall returne unto their first places: and that all other things shall return with them again to the same order wherein they were. But this opinion is very vain: for neither will the motions of the planets and stars, calculated together, agree to such a revolution. And the Apostle Peter assures, That both the Heavens and the earth which now are, shall be destroyed with fire at the last day, 2 Pet. 3. 6. which will certainly be long before this period.

Concerning the number of the stars, though it be great, yet it is not infinite. Astronomers take notice only of about 1000 which are the most conspicuous and though sometimes in a clear winter night many more little ones may be perceived; yet they cannot certainly be observed, and those aforesaid seem many more than they are.

The ancient astronomers, the better to distinguish and describe these stars, have drawne them upon their globes and maps, in 48 images: so that every star comes to have a name from that part of the image they are placed in; as the

the Bulls eye, the Lions hearts and such like: Some moderate Astronomers have added 12 constellations more toward the South pole, which were not known to the ancients.

Another way whereby these stars are distinguished, is by their severall bignesses, and to this purpose they rank them into 6 magnitudes. This distinction is far more apparent than the other, the constellations being only poeticall and imaginary, this difference reall and visible. But though the biggest of these stars seem little in regard of their great distance from us, yet they are of wonderfull greatnesse. For if you reckon only their distance, according to Tycho, to be 14000 semidiameters of the earth (whereas Ptolomy allowes 20000) this reduced into miles, yeilds 55762000. which being supposed, their breadth and compasse according to their visible diameters, will be as followeth.

	Breadth	Compass	Number.
1	32342	101643	15
2	24256	76232	45
3	16841	52935	208
4	12128	38116	474
5	08085	25410	217
6	05090	16941	49

Hereby you see, that the smallest stars are almost as big as the earth, the compasse of the earth being 25036 miles, as we shewed before. The next sort are full as big, or bigger, and all the rest in order, far exceed the earth. So that a star of the first order is four times the breadth and compasse of the earth; which cubically considered renders the star 65 times greater then the earth. Thus the least things in heaven are great, though they seem small; and the greatest things on earth are small, though they seem great. Let this teach us to esteem of things, not as they seem, but as they are.

7. Of the Cristalline Heaven.

This is fitly called the watery Heaven, whose place is above the stars. For though no such thing is apparent to our eyes, yet the Scriptures make frequent mention of it. This was the work of the second day in the Creation, Gen. 1. 6, 7. Again God said, Let there be a Firmament in the midst of the waters, and let it divide the waters from the waters. Then God made the Firmament, and separated the waters which were under the Firmament from the waters which were above the Firmament. This though some interpret of the waters in the clouds, yet it cannot be so meant, for the clouds are far below the Firmament, those waters are above it: Besides, the clouds are but vapours arising daily out of the earth. And though this may seem

Arrange to sense or reason; Yet it is the best way in this point to resolve with Du Bartas,

I'll rather give a thousand times the Iye
To mine own reason. then but once deny
The sacred voice of that non-erring Spirit
Which doth so plainly and so oft aver it,
That God above the highest Firmament,
I wot not, /, what kind of Waters pent,
Psal. 104. 5. Psal. 148. 4.

And the better to perswade you to this, consider what he saith afterwards.

I see not why mans reason should withstand,
Or not beleve, that God, whose powerfull hand
Bay'd up the Red sea with a double wall,
That Israels Host might scape Egyptian thrall;
Could prop as sure these waters thus on high,
Above the heavens starry Canopy.

And here, by the way, let those who plead for the motion of the earth, and the standing still of the Sun, contrary to the constant phrase of the holy Scriptures, see what force is in their excuse, as if the Scriptures in these things spake only according to our common sense, and the vulgar opinion; and not the real truth according to nature and art to informe our judgments. I am sure in this point the Scripture speaks a truth, which passeth both the sense and art of man to apprehend. And not only in this one particular but many other things there are set down in the Creation, which are above, though not contrary to the rules of philosophy. As that there should be day, three dayes before the Sun. That the trees and plants should spring and grow without the Sun, which is the naturall cause of their production. That the Bird should be before the egge, which is preposterous in naturall generation; Yet these things we ought to beleve: much more such things as are more conformable to our sense and common experience.

What may be the use of these waters, is very difficult to determine, the Scriptures herein being silent. Some think they were partly used for the drowning of the old world: For it cannot be made good that so much water could probably descend from the clouds, the waters being above the highest mountain, and many of these mountains being higher then the clouds themselves. Neither is this phrase used to set forth the rain that comes from the clouds.

Others think that those waters are placed here for the cooling of the Firmament, which else would be set on fire by its swift & continuall motion; & that the daily consumption of these waters, will be a secondary cause of the burning of the Heavens and the earth at the last day. But these things

are uncertain. The best use of them is set forth by
the Prophet Psal 148. 4 *Traise the Lord ye heaven of
heaven, and ye waters which are above the heavens.*

8. Of the first moving Heaven.

Above all these (by the opinion of many) there
is a great vast sphere encompassing all the rest,
which is called the first moving heaven: this is
supposed to move round every 24 hours, & there-
with to carry round about all the Stars and Pla-
nets every day. But as this is above our senses
to perceive it; so the reasons they bring to prove
it are not of sufficient force. And I rather think
that God hath endowed these celestiaall bodies
with an inward power to perform their severall
motions. For though they are not living creatures
as some have imagined; yet they may have a
propensity to move to a certain point or in a circu-
lar motion; as we see the Loadstone doth, being
firstly placed.

For suppose those Heavens or Heavenly bodies
had need of any outward cause of their motions;
yet how can this Primum mobile yeild them a-
ny help therein. For though it might move the
highest Firmament wherein the Stars are, and
which keep a uniforme motion among themselves,
yet how can it move the Planets which are far-
ther from it, and have so many severall motions.
They answer to this, that the diversity of their
motion proceeds from their distance from this
first mover, which thereby hath the less force over
them, to hinder them in their proper motions from
the West to the East. But to this it may be re-
plyed, that if they have a power of themselves to
per-

performe the one motion, why can they not performe the other daily motion likewise by their own power?

The resolution of these motions might much better depend upon the daily motion of the earth upon its own axis: and did not the Scriptures so oppose this motion, I should willingly assent therunto. But I shall adde this one Argument more against this opinion of the Copernicans. For they supposing the earth to be a Planet, how then can they think that the earth should have any other motion then the rest of the Planets? Now that the other Planets have no such diurnall motions upon their own axis, is apparent by the Moon, which if she had any such motion, the spots in the Moon would not appear alwaies in the same place of the Moon as they do, both on the East and West of the Meridian; For if the Moon were turned round, these spots would be sometimes on the one side, and by and by on the other. But if you observe these spots, you shall find the picture of the man in the Moon, continually on the Western side of the Moon; and though some variation it may have in respect of the verticall point; yet in respect of the Pole of the Ecliptick, it keeps the same place very exactly, just as the horns of the Moon do in the prime and later part of the Moon.

Thus I have ascended to the highest parts of the visible Heavens, and have (I hope) in some measure performed my promise: What remains for the further demonstration of these things, I have neither time nor room to declare: But if I shall find a farther opportunity, I shall not spare for my pains therein. In the mean time desiring your kind acceptance hereof, I rest

Tours H. P.

Handwritten text in a cursive script, likely a ledger or account book. The text is written on a single sheet of paper, oriented vertically. The script is dense and fills most of the page. The text is written in a cursive script, likely a ledger or account book. The text is written on a single sheet of paper, oriented vertically. The script is dense and fills most of the page. The text is written in a cursive script, likely a ledger or account book. The text is written on a single sheet of paper, oriented vertically. The script is dense and fills most of the page.

Handwritten text in a cursive script, likely a historical document or manuscript. The text is written in a dark ink on aged, slightly yellowed paper. It consists of approximately 15 lines of text, with some lines being more densely written than others. The script is characteristic of early modern European handwriting, possibly from the 16th or 17th century. The text is written in a single column, with some lines starting with a large initial letter. The overall appearance is that of a personal letter or a private record.

Handwritten text in a cursive script, likely from a manuscript or letter. The text is written on aged paper and includes various words and phrases, some of which are partially obscured by the binding or other markings.

Handwritten text in a cursive script, likely a historical document or manuscript. The text is written in a dark ink on aged paper. It consists of several lines of text, with some lines starting with a large initial letter. The script is highly stylized and difficult to decipher without knowledge of the specific language or dialect. The text appears to be a list or a series of entries, possibly related to a historical record or a legal document. The lines are closely spaced, and the handwriting is consistent throughout the page.

Handwritten text at the top of the page, partially cut off.

Main body of handwritten text in a cursive script, likely a historical document or manuscript. The text is written in a dark ink on aged paper and covers most of the page area.

Handwritten text in a cursive script, likely a historical document or manuscript. The text is written in a dark ink on aged, slightly discolored paper. It appears to be a list or a series of entries, possibly related to a legal or administrative record. The script is dense and difficult to decipher without specialized knowledge of the language or dialect used. The text is organized into several lines, with some entries appearing to be numbered or dated. The overall appearance is that of a well-preserved but aged historical document.

Handwritten text in Arabic script, likely a list or index, with various numbers and symbols. The text is written on a piece of paper with a vertical crease. The handwriting is cursive and includes many numbers and some letters, possibly representing a catalog or a list of items.

[Handwritten musical notation on a single staff, likely representing a melody or rhythm.]

Handwritten text in a cursive script, likely a historical document or manuscript. The text is written in a dark ink on aged, slightly yellowed paper. It consists of approximately 15 lines of text, with some lines starting with a large, ornate initial letter. The script is dense and difficult to decipher without knowledge of the specific language or dialect used. The text appears to be a continuous narrative or a list of items, with some lines containing numbers or dates. The overall appearance is that of a well-preserved but aged historical document.

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... 17 ... 14 ... 12 ... 10 ... 8 ... 6 ... 4 ... 2 ...

[The page contains dense handwritten text in a cursive script, likely from a personal journal or letter. The handwriting is somewhat faded and difficult to decipher. It appears to be written on lined paper, though the lines are not clearly visible. The text spans most of the page, starting from the top left and ending near the bottom right.]

Handwritten text at the top of the page, partially cut off.

Main body of handwritten text, consisting of several lines of cursive script. The text is dense and fills most of the page.

Handwritten text, likely a ledger or account book, written in cursive script. The text is organized into columns and rows, with some entries appearing to be dates or numerical values. The handwriting is dense and somewhat difficult to decipher due to the cursive style and the angle of the page.

Visible fragments of text include:

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[The page contains dense handwritten cursive script, likely representing musical notation or a manuscript. The handwriting is highly stylized and difficult to decipher as individual words.]

Handwritten text in a cursive script, likely a ledger or account book. The text is written on a single page with a dark binding visible on the left. The script is dense and fills most of the page. The text appears to be organized into columns, possibly representing different categories or accounts. The handwriting is somewhat slanted and the ink is dark. The page is slightly aged and shows some wear at the edges.

14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000 1001 1002 1003 1004 1005 1006 1007 1008 1009 1010 1011 1012 1013 1014 1015 1016 1017 1018 1019 1020 1021 1022 1023 1024 1025 1026 1027 1028 1029 1030 1031 1032 1033 1034 1035 1036 1037 1038 1039 1040 1041 1042 1043 1044 1045 104

Handwritten text in a cursive script, likely a ledger or account book. The text is written on a single page and is oriented vertically. The script is dense and difficult to decipher, but appears to be a form of shorthand or a very fast cursive. The text is organized into several columns, suggesting a structured record-keeping system. The page is numbered '184' in the bottom right corner.

Handwritten text in a cursive script, likely a historical document or manuscript. The text is written on a single page and appears to be a continuous narrative or record. The script is dense and fills most of the page, with some lines starting with capital letters. The ink is dark, and the paper shows signs of age and wear.

Handwritten text in a cursive script, likely a historical document or manuscript. The text is written on a single page and appears to be a continuous narrative or record. The script is dense and difficult to decipher without specialized knowledge of the language or dialect used. The text is written in a cursive script, likely a historical document or manuscript. The text is written on a single page and appears to be a continuous narrative or record. The script is dense and difficult to decipher without specialized knowledge of the language or dialect used.

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Da: 100: 2

Q: How oft would about my good
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 Wednesday be & his boy
 Thursday be & his boy $\frac{1}{2}$ a day
 Friday be & his boy $\frac{1}{2}$ a day
 Saturday be & his boy $\frac{1}{2}$ a day
 Monday be & his boy a day
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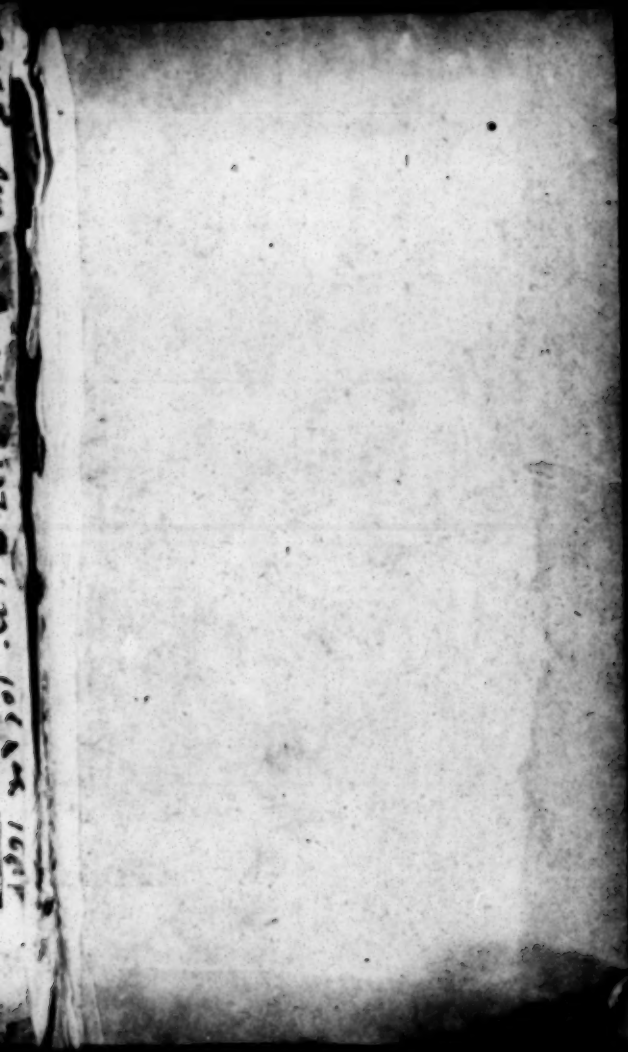
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